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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/657,144	09/09/2003	David Alexander	IMMR-IMD0002E (034701-029	1898

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EXAMINER	
GISHNOCK, NIKOLAI A	

ART UNIT	PAPER NUMBER
3714	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/657,144	ALEXANDER ET AL.	
	Examiner	Art Unit	
	Nikolai A. Gishnock	3714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 July 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *17,24,25,27,32,33,36 and 38* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *17,24,25,27,32,33,36 and 38* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

In response to the Applicant's response of 7/10/2008, claims 1-16, 18-23, 26, 28-31, 34, 35, 37, 39, & 40 are cancelled. Claims 17, 24, 25, 27, 32, 33, 36, & 38 are pending.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 17, 24, 27, 32, & 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hon (US 4,907,973 A), hereinafter known as Hon, in view of Carlson et al. (US 5,820,600 A), hereinafter known as Carlson, and further in view of Lang et al. (US 5,480,307), hereinafter known as Lang.

4. Hon teaches an apparatus for simulation (an expert system simulator for modeling that is especially useful for training personnel in the medical and related arts, 1:7-9) comprising: a housing (internal arterial modeling device, 7:22-35; see Figure 9, Item 91); a mock anatomical

site coupled to the housing having an orifice being configured to receive a peripheral device (mock arterial paths having an inserted mock catheter, 7:50-60; see also Figure 9, Item 90 & Figure 10, Items 96, 96a, 96b, ... 96n & 97), the mock anatomical site being functionally coupled to a resilient hollow member or a pivotable torsion tube extending between the orifice and a sensing assembly, the hollow member being configured to guide the peripheral device between the orifice and the sensing assembly and disposed within a housing (representative internal model with mock arterial paths and mock catheter for realistic simulation of both the depth and feel of angioplasty. Sensors track the progress of the inserted catheter. Within or adjacent to the arterial pathway, magnetic ring sensors trace the direction and distance of catheter insertion; and a vessel constricting simulator is positioned in one or more desired locations along mock arterial path, 7:50-8:10) [Claims 17, 24, 32, 35, & 37].

5. What Hon fails to teach is a bracket positioned coupled to the mock anatomical site and the housing, having a first end coupled to a mock anatomical site and a second end coupled to a housing, configured to pivot at the second end to allow the mock anatomical site to be movable in a plurality of degrees of freedom with respect to the housing, to allow positioning adjustment of the mock anatomical site [Claims 17, 24, & 32]. However, Lang teaches a housing (a frame or cabinet-shaped base on rollers), having a mock anatomical site (a model bust and model face with a mouth area in which clinical dental or orthodontic procedures are carried out), and a bracket (a neck joint in the area of the neck which is of sufficient strength to carry the head; this is understood to be a bracket in the sense that it supports the weight of the head), the first end of the bracket connected to the head and the second to the base, and configured to allow positioning adjustment of the mock anatomical site in a plurality of degrees of freedom (the neck joint provides vertical swivel movements, rotary movements, and lateral swivel movements of the model head, the ranges of angular freedom combining as in the case of a

human being, all the above at 5:8-56, and Figure 2, Item 17; see also Figures 4-6). The bracket taught by Lang would be used to reposition the anatomical site in the head, as further taught by Lang, in the device of Hon, in the instance that the insertion site being practiced on was in the head or neck of the patient simulator, such as in the case where the mock arterial path models the carotid arteries. The bracket would have movement in a plurality of degrees of freedom so that the mock anatomical site can be repositioned similar to how a patient may be repositioned during a surgical procedure. Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have included the bracket of Lang, in the surgical simulator of Hon, in order to more closely model a real surgical procedure [Claims 17, 24, & 32].

6. What Hon further fails to teach is a first retainer coupled to a first end of the bracket proximal to a mock anatomical site; a first ring coupled to the mock anatomical site and the first retainer and configured to rotate about the first retainer; a first locking mechanism configured to prevent movement of the orifice when the locking mechanism is engaged in a locked position; a second retainer; a second ring coupled to the to the housing and the second retainer, the second ring being configured to rotate about the second retainer to allow the bracket to pivot with respect to the housing; and a hollow member extending through the resiliency-providing material and between the orifice and the housing and the sensing assembly, through the first retainer and first ring, the hollow member being configured to guide the peripheral device from the orifice to the housing and the sensing assembly [Claims 17, 24, 32, 35, & 37]. However, Carlson teaches an adjustable trocar valve (the valve is attached to the proximal end of a cannula shaft to form part of an introducer assembly, such as a trocar or a radially expandable introducer, for introducing instruments and viewing scopes through a percutaneous penetration into a patient's body, 4:15-19) having a first retainer (pivot tower, Figures 1 & 4, Item 40); a first ring disposed proximate to the orifice (dialator ring, Figures 1 & 4, Item 50), the first ring being

configured to rotate about the first retainer (a second valve member or dialator ring is movably coupled around pivot tower, 7:34-49; also, 4:37-46); a first locking mechanism (holding members, Figures 5A & 5B, Item 110) configured to prevent movement of the orifice when the locking mechanism is engaged in a locked position (the valve further includes means for securing a proximal portion of the instrument at or near the center of the membrane; the securing means comprises one or more holding members coupled to the first valve member for preventing transverse movement of the instrument relative to the membrane, while allowing axial movement, 4:47-55; thus preventing movement of the membrane, being part of the trocar and trocar stop assembly, e.g. the orifice, when secured, while the instrument is moved), and a bracket (introducer assembly including cannula shaft, Figure 1, Items 2 & 4) positioned between the mock anatomical site and the sensing assembly, through the first retainer and first ring, the hollow member being configured to guide the peripheral device from the orifice to the housing and the sensing assembly (introducer assembly generally includes an elongate shaft or cannula, a handle and a valve assembly; cannula has a proximal end, a distal end, and an axial lumen there between for receiving elongate objects, such as an endoscope and/or surgical instruments for performing a surgical procedure within the patient's body, 7:5-23), and allowing the mock anatomical site to pivot (4:27-55; to allow the mock anatomical site to pivot in a first direction with respect to the bracket, and in a second direction substantially orthogonal to the first direction are understood to be intended uses of the apparatus, and not given patentable weight); and wherein the locking mechanism uses at least one of a frictional force and a pressure force to prevent the movement of the orifice (Holding members are biased radially inward by a suitable biasing means, such as a spring, so that members secure the instrument at the center of membrane, 10:13-16; it is understood that the spring exerts a pressure force on the trocar and trocar stop, which is countered by friction from a normal force against the

simulated instrument). The trocar and valve assembly of Carlson would be inserted into the mock arterial paths of Hon during a surgical simulation. The trocar assembly of Carlson would be disposed as part of the neck assembly taught by Lang to allow insertion of simulated instruments into a mock arterial site in the neck, such as a simulated carotid artery. Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have positioned the trocar as taught by Carlson, proximate to the bracket in the neck assembly taught by Lang, in the apparatus for simulation of Hon, in order to increase the realism and accuracy of the training simulation [Claims 17, 24, 32, 35, & 37],

7. Hon and Carlson teach all the features of claim 32, as demonstrated above. Hon teaches where in the housing is a mock torso (internal arterial modeling device, 7:22-35; see also Figure 9, Item 91). What Hon and Carlson fail to teach is wherein the mock anatomical site is a simulated patient head [Claim 27], or a mock face [Claim 36]. However, Lang teaches a training and practice apparatus for simulating and practicing clinical processes, having a model bust with a model head (Figure 1, Items 6 & 7), where the mock head has a face (Figure 2, Item 7), and is a mock anatomical site (FIG. 1 shows the model head in a supine disposition, viz. a working position in which clinical dental or orthodontic processes are carried out in the mouth area; this can take place by means of treatment instruments, which are individual treatment tools or treatment equipment connected to supply hoses, 5:8-30). The mock face of Lang would be mounted on the mock torso of Hon, as taught by Lang, to be used by inserting treatment instruments in the mock anatomical site. Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have the mock anatomical site be a mock face, as taught by Lang, in the apparatus for simulation of Hon, as taught by Carlson, in order to increase the realism and accuracy of a simulation of facial surgery [Claims 27 & 36].

8. Claims 25 & 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hon, in view of Carlson and Lang, as applied to claims 24 & 32 above, and further in view of Younker (US 5,951,301), hereinafter known as Younker.

9. Hon, Carlson, and Lang teach all the features of claims 24 & 32, as demonstrated above. What Hon, Carlson, and Lang fail to teach is where a block of resilient material is a block of foam [Claims 25 & 32]. However, Younker teaches a block of resilient material (synthetic torso, 4:20-34) that is a block of foam (a suitable elastomeric formula for making such a dry suture training procedure pack is a two part expandable urethane foam, 7:19-26). The modeling device of Hon would be formed of the resilient foam taught by Younker, for creating synthetic tissues that have a density, resiliency, and flexibility that approximates the corresponding mammalian tissue and reacts to mechanical forces in an equivalent fashion. Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have used the block of resilient foam formed into a synthetic torso of Younker to form the internal arterial modeling device of Hon, in light of the teachings of Carlson and Lang, in order to more precisely replicate the resiliency and reaction to mechanical forces encountered by a simulated endoscope [Claims 25 & 33].

10. Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hon, in view of Carlson and Lang, as applied to claim 17 above, and further in view of Bailey (US 5,800,179), hereinafter known as Bailey.

11. Hon, Carlson, and Lang teach all the features of claim 32, as demonstrated above. What Hon, Carlson, and Lang fail to teach is wherein the peripheral device is a guidewire [Claim 38]. However, Bailey teaches a system for training persons to perform surgical procedures, having a mock surgical instrument (implement), coupled to a movement guide and sensor assembly,

which contains a guide wire (the distal end of the implement within the housing is affixed to a movement guide and sensor assembly; collectively, the framed assembly with components described above, guide wire, and the guide rails form the movement guide and sensor assembly, 5:23-49). One of the endoscopic instruments simulated for insertion into the mock body of Hon would be an implement attached to a guide wire, as taught by Bailey. Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have made the peripheral device of Hon a guide wire, as taught by Bailey, and further in light of the teachings of Carlson and Lang, in order to restrict the motion of the implement within the housing and provide accurate sensing of the implement relative to that housing [Claim 38].

Response to Arguments

12. Applicant's arguments with respect to claims 17, 24, & 32 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nikolai A. Gishnock whose telephone number is (571)272-1420. The examiner can normally be reached on M-F 8:30a-5p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Xuan M. Thai can be reached on 571-272-7147. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

9/18/2008
/N. A. G./
Examiner, Art Unit 3714

/XUAN M. THAI/
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